

Duminda Wijesekera

Expanded Curriculum Vitae

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Date of Birth: May 24, 1957
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Biographical Summary

Duminda Wijesekera is an associate professor in the Department of Information and Software Engineering at George Mason University, Fairfax, Virginia. During various times, he has contributed to research in security, multimedia, networks, systems, avionics and theoretical computer science. These span topics such as applying logical methods to access and dissemination control, securing circuit switched public telephones (SS7) and IP based telecommunication (VoIP) systems, multimedia, security requirements processing during the early phases of the software life cycle, WWW security, railroad signaling security, SCADA security, communicating honeynet farms, and engineering Ballistic Missiles. His pre-GMU work has been in quality of service issues in multimedia, avionics control and specifying and verifying concurrent systems using logical methods.

He holds courtesy appointments at the Center for Secure Information Systems (CSIS) and the Center for Command, Control and Coordination (C4I) at George Mason University, The Computer Science Department at the Naval Postgraduate School, NIST, and is a fellow at the Potomac Institute of Policy Studies in Arlington, VA.

Prior to joining GMU as an assistant professor in 1999, he was a senior systems engineer at Honeywell Space Systems in Clearwater, Florida. He has been a visiting post-doctoral fellow at the Army High Performance Research Center at the University of Minnesota, and an assistant professor of Mathematics at the University of Wisconsin. Wijesekera received a PhD in Computer Science from the University of Minnesota in 1997 under Professor Jaideep Srivastava and a PhD in Mathematical Logic from Cornell University in 1990 under Professor Anil Nerode.

Education

1. Ph.D. in Computer Science, University of Minnesota, Minneapolis, MN, December 1997.
Thesis title: *Quality of Service for Continuous Media: Metrics, Validation, Implementation and Performance Evaluation*.
Advisor: Jaideep Srivastava.
2. M.S. in Computer Science, University of Minnesota, Minneapolis, MN, December 1995.
Thesis title: *Quality of Service based Synchronization for Continuous Media*.
Advisor: Jaideep Srivastava.
3. Ph.D. in Mathematics, Cornell University, Ithaca, NY, May 1990.
Thesis Title: *Constructive Modal Logics*.
Advisor: Anil Nerode.
4. M.S. in Computer Science, Cornell University, Ithaca, NY, May 1989. Project: *Fast Primality Testing using Ankeny's Theorem and Gödel's Dialectica Interpretation*
Mentor: Robert L. Constable.
5. B.Sc. (first class honors) in Mathematics, University of Colombo, Colombo, Sri-Lanka, December 1981.

Regular Employment

1. August 2005 – to date, Associate Professor with tenure, Computer Science Department, George Mason University.
2. August 1999- August 2005: Assistant Professor, Information and Software Engineering Department, George Mason University.
3. February 1998 – May 1999: Senior Systems Engineer, Space Systems, Honeywell Inc, Clearwater, FL.
4. January 1999- June 1999: Adjunct Assistant Professor, Computer Science Department, University of Central Florida, Orlando FL.
5. September 1993 - December 1997: Research & Teaching Assistant, Dept of Computer Science, University of Minnesota
6. March 1993 - December 1994: Graduate Intern: Honeywell Technology Center, Minneapolis, MN.
7. September 1990 – September 1992: Visiting Postdoctoral Fellow, Army High Performance Computing Research Center, University of Minnesota.
8. September 1989 – December 1992: Assistant professor of Mathematics and Computer Science, University of Wisconsin, Superior, WI.
9. September 1983 - July 1989: Research and Teaching Assistant, Mathematics Department, Cornell University, Ithaca NY.

Courtesy Appointments

1. March 2007 to date: visiting research scientist, NIST.
2. August 2006- to date: Adjunct associate professor, Department of Computer Science, Naval Postgraduate School, Monterey, CA.
3. June 2006 to date: Research fellow, The Potomac Institute of Policy Studies, Arlington, VA.
4. September 2005 to date: The Center for Command, Control, Computing and Intelligence, George Mason University.
5. May 2005 to date: Director of Technical Liaisons, Aeolus Systems, Clearwater, FL.
6. September 1999 to date: Associated faculty: Center for Secure Information Systems, George Mason University

Honors/Awards

1. May 2007: Outstanding Research Award, Department of Information and Software Engineering, George Mason University.
2. May 2005: Outstanding Research Award, Department of Information and Software Engineering, George Mason University.
3. May 2004: Outstanding Research Award, Department of Information and Software Engineering, George Mason University.
4. April 1999: Certificate of Appreciation given for Outstanding Support for DARPA BAA 99-20 Proposal Development, Space and Defense Systems, Honeywell Inc.
5. May 1995: Best Teaching Assistant's Award, Department of Computer Science, University of Minnesota.
6. September 1989: Hutchinson Fellowship, Department of Mathematics, Cornell University.
7. September 1988: Mathematical Sciences Institute Fellowship, Cornell University.
8. 1978: Best Freshman Student's Award, University of Colombo.

Publications

Books

1. Lingyu Wang, Sushil Jajodia and Duminda Wijesekera, Preserving Privacy for On-Line Analytical processing, Springer-Verlag, 2006.

Edited Proceedings

1. Hannan Lutfiyya, Mark Burgess and Duminda Wijesekera, Proceedings of the IEEE Workshop on Policies for Distributed Systems and Networks - Policy 2006. July 05-07, London, Ontario, Canada, IEEE Press.

2. Sushil Jajodia and Duminda Wijesekera: Data and Applications Security XIX, 19th Annual IFIP WG 11.3 Working Conference on Data and Applications Security, Storrs, CT, USA, August 7-10, 2005, Proceedings [Springer-Verlag 2005](#).

Journal Publications

1. Mark Hartong, Rajni Goel and Duminda Wijesekera, Trust-Based Secure Positive Train Control (PTC), Pages 211-228, Volume 1, Number 4, December 2008, Journal of Transportation Security.
2. Mark Rajni Goel and Duminda Wijesekera, Security and the US Rail Infrastructure, December 2008, Volume 1, Pages 15-28, Journal of Critical Infrastructure Protection.
3. Steve Barker and Marek Sergot and Duminda Wijesekera, Status-based Access Control, in ACM Transactions of Information and System Security Volume 12, Number 1, Pages 1-47, October 2008,.
4. Hemant Sengar, Haining Wang, Duminda Wijesekera and Sushil Jajodia, Detecting VoIP Floods using the Hellinger Distance, IEEE Transactions in Parallel and Distributed Systems, 19(6) (2008) Pages 794-805.
5. Lingyu Wang, Yinju Lee, Sushail Jajodia and Duminda Wijesekera, Parity-based inference control for multi-dimensional range sum queries, in the Journal of Computer Security, Volume 15 no 4 (2007) Pages 417-445.
6. Liesheng Peng, Duminda Wijesekera, Tom Wingfield and Bret Michael, An Ontology-based Legal Whiteboard to determine Legal Responses to Online Cyber Attacks, in the Internet Research Journal, Vol. 16 No. 5, Pages 475-490, December 2006.
7. Hemant Sengar, Ram Dantu, Duminda Wijesekera, Sushil Jajodia, SS7 over IP: Signaling Internetworking Vulnerabilities, IEEE Network, Vol. 20, No. 6, Pages 32-41, November 2006.
8. Khaled Alghathbar, Csilla Farkas, and Duminda Wijesekera, Securing UML Information Flow Using UML, Journal of Research and Practice in Information Technology (JRPIT), Vol 38, No 1, Pages 123-132, February 2006.
9. Naren B. Kodali, Duminda Wijesekera and James Bret Michael, *SPUTERS: An integrated secure Traffic Surveillance and Emergency Response Architecture*, Journal of Intelligent Transportation Vol 9, 2005, Pages 1-25.
10. Naren B. Kodali, Csilla Farkas and Duminda Wijesekera, *RDF Meta-structures for Multimedia Security*, Journal of Digital Libraries, Volume 4, No 3, 2004, Pages 139-155.
11. Naren B. Kodali, Csilla Farkas and Duminda Wijesekera, *Enforcing Semantics Aware Security in Multimedia Surveillance*, in Journal on Data Semantics (Springer LNCS) Volume II, Page 199-221, December 2004.
12. Naren B. Kodali, Csilla Farkas and Duminda Wijesekera, *Metadata for Multimedia Access Control*, in the International Journal of Computer Systems, Science and Engineering, special issue on trends in XML Technology. (Invited), Vol 19, Nos 3-4, Pages 95-105, May & July 2004.
13. Claudio Bettini, Sushil Jajodia, X. Sean Wang and Duminda Wijesekera, *Reasoning with advanced policy rules and its applications to access control*, Journal of Digital Libraries Volume 4, Number 3, 2004, Pages 156-170.

14. Lingyu Wang, Duminda Wijesekera and Sushil Jajodia, *Inference Control in the Data Cube*, Journal of Computer Security, Vol. 12, No. 5, 2004, pages 655-692.
15. Duminda Wijesekera and Anil Nerode, *Tableaux for Concurrent Dynamic Logic*, Annals of Pure and Applied Logic, Volume 135, Issues 1-3 Pages 1-72, September 2005.
16. Khaled Alghathbar and Duminda Wijesekera, *Incorporating Access Control Policies in Requirements Engineering*, in the Journal of Computer and Information Science (IJCIS). Vol. 5, no. 1, January 2004.
17. Duminda Wijesekera, Sushil Jajodia, Asa Hagerstrom, and Francesco Parisi-Prisece, *Removing Permissions in the Flexible Authorization Framework*, ACM Trans. on Database Systems, Vol. 28, No. 3, September 2003, pages 209-229.
18. Claudio Bettini, Sushil Jajodia, Xioang. Sean Wang and Duminda Wijesekera, *Provisions and Obligations in Policy Rule Management* in the Journal of Network and Systems Management, Volume 11, Number 3, Pages 351-372, September 2003.
19. Duminda Wijesekera and Sushil Jajodia, *Propositional Policy Algebras*, in *ACM Trans. on Information and System Security*, Vol. 6, No. 2, Pages 286-325, May 2003.
20. Duminda Wijesekera, Jaideep. Srivastava, Madhavan. Ganesh and Anil Nerode, *Normal Forms for Functional Independencies*, in *Theoretical Computer Science*, 266, Pages 365-405, December 2001.
21. Raymond Paul, Jaideep Srivastava and Duminda Wijesekera, *Information Quality Based (Computer/Distributed) System Evaluation*, in *International Journal of Testing and Evaluation*, Pages 41-52, June 2000.
22. Duminda Wijesekera, Jaideep Srivastava, Anil Nerode and Mark Foresti, *Human Perceptions of Media and Synchronization Losses*, in *ACM Multimedia Systems 7*, Pages 486-499, December 1999,
23. Duminda Wijesekera and Jaideep Srivastava, *Quality of Service (QoS) Metrics for Continuous Media*, in *Multimedia Tools and Applications Vol 3*, Number 2, Pages 127-166, September 1996.
24. Duminda Wijesekera, *Constructive Modal Logics I*, in *Annals of Pure and Applied Logic Volume 50*, pages 271-301, 1990.

Refereed Conference and Workshop Publications:

1. Murat Gunestas and Duminda Wijesekera, *Detecting Illegal Business Schemes in Choreographed Web Services: The Ponzi/Pyramidal Case*, to appear in the 6th IFIP Conference on Digital Forensics, January 2-3, 2010 in Hong Kong (14 pages)
2. Murat Gunestas and Duminda Wijesekera, *Online Detection of Web Choreography Misuses*, accepted for publication by the 5th International Conference on Collaborative Computing Networking, Applications and Work sharing, to be held on November 11-14, 2009 in Washington DC. (8 pages, but no page numbers given yet)
3. Min Xu and Duminda Wijesekera, *Role based XACML Administration and Delegation Profile and its Enforcement Architecture*, to appear in the proceedings of the ACM Workshop on Secure Web Services (SWS) Chicago, USA, November 9-13, 2009. (8 pages, but no page numbers given yet)

4. Min Xu, Duminda Wijesekera, Xinwen Zhang and Deshan Cooray, Towards Session-aware RBAC Administration and Enforcement with XACML, Pages 9-15, IEEE Policy 2009.
5. Murat Gunesata, Duminda Wijesekera and Ahmed Elkhodary, A Model for Generating Evidence of Web Service Behavior, 4th IEEE conference on Systems of systems, May 31-June 03, 2009 (6 pages, no page numbers on the CD).
6. Randy Arvay, Duminda Wijesekera and James Bret Michael, Using RuleML to Specify Cross-Domain Information Flow Control Policies, 4th IEEE conference on Systems of systems, May 31-June 03, 2009 (6 pages, no page numbers on the CD).
7. Hemant Sengar, Haining Wang, Xinyuan Wang, Duminda Wijesekera and Sushil Jajodia, Online Detection of Network Traffic Anomalies Using Behavioral Distance, IWQoS 2009, June 13-15, 2009 (9 pages, no page numbers on the CD).
8. Ahmed Alalzzawe, Anis Alazzawe, Duminda Wijesekera and Ram Dantu, A Testbed for Mobile Social Computing, in Tridentcom, 5th International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities and Workshops, Pages.1-6, 2009.
9. Xiaohui Yang, Ram Dantu, Duminda Wijesekera, A Society-integrated Testbed Architecture for Peer-to-Peer Telecommunications, Tridentcom, 5th International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities and Workshops, Pages 50-56, 2009.
10. Anyi Liu, Yi Yuan, Duminda Wijesekera, and Angelos Stavrou, SQLProb: A Proxy-based Architecture towards Preventing SQL Injection Attacks, 24th Annual ACM Symposium on Applied Computing (SAC'09), Pages 2054-2061, March 8-12, 2009, Honolulu, Hawaii.
11. Thomas Massie and Duminda Wijesekera, TVIS: Tactical Voice Interaction for Dismounted Urban Operations, in the Proceedings of MILCOM 2008, (7 pages, no page numbers on CD).
12. Xiaohui Yang, Ram Dantu, Duminda Wijesekera, Achieving Peer-to-peer Telecommunication services through Social Hashing, in the proceedings of the 5th IEEE Consumer Communications and Networking Conference (CCNC), 2008 (2 pages, no page numbers given).
13. Xinyuan Wang, Ruishan Zhang, Xiaohui Yang, Xuxian Jiang, and Duminda Wijesekera. [Voice Pharming Attack and the Trust of VoIP](#), in the Proceedings of the 4th International Conference on Security and Privacy in Communication Networks (SecureComm 2008), September 2008 (Article 24, 11 pages, no page numbers assigned).
14. Steven Gianvecchio, Haining Wang, Duminda Wijesekera and Sushil Jajodia, Model-based Covert Timing Channels, in RAID 2008, September 15-17, Pages: 211 - 230.
15. Jon Whittle, Duminda Wijesekera, Mark Hartong, Executable Misuse Cases for Modeling Security Concerns, in the proceeding of the 30th International Conference on Software Engineering, Pages 121-130, May 10-18 , 2008.
16. Ahmed Alazzawe, Anis Alazzawe, Asad Nawaz, and Duminda Wijesekera, extracting Kerberos Passwords Through RC4-HMAC Encryption Type Analysis published in the proceedings of The 6th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA-08), Pages 679-685, March 31-April 3 in Doha, Qatar, 2008.

17. Murat Gunestas, Duminda Wijesekera and Anop Singhal, Forensic Web Services, in the proceedings of the 4th IFIP 11.9 WG International Conference on Digital Forensic, Pages 163-176, January 27-30, Kyoto, Japan, 2008
18. Mark Hartong, Rajni Goel and Duminda Wijesekera, Cryptographic Protection of Railroad event Recorder Data, in the proceedings of the 4th IFIP 11.9 WG International Conference on Digital Forensic, January 27-30, Kyoto, Japan, 2008
19. [Vijayant Dhankhar](#), [Saket Kaushik](#), Duminda Wijesekera: Securing Workflows with XACML, RDF and BPEL. [DBSec 2008](#). Pages 330-345, July 2008, London.
20. Vijayant Dhankhar, Saket Kaushik, Duminda Wijesekera and Anil Nerode, Evaluating Distributed XACML policies, In ACM Workshop on Semantic Web Services, November 02, Pages 99-110, July 2007.
21. Hasika Pamunuwa, Duminda Wijesekera and Csilla Farkas, An intrusion detection system for detecting phishing attacks, in the proceedings of the Secure Data Management (SDM) workshop, Pages 181-192, October 2007.
22. Duminda Wijesekera, Lingya Sun, Paul Ammann and Gordon Fraiser, Relating Counterexamples to Test Cases in CTL Model Checking, AMOST workshop, Pages 75-84, London, July 05, 2007.
23. Vijayant Dhankhar, Saket Kaushik and Duminda Wijesekera. XACML Policies for Exclusive Resource Usage, Proceedings of IFIP 11.3, Pages 275-290, July 2007, Rodendo Beach, CA.
24. Barry Sweeney and Duminda Wijesekera, Comparison of using IPsec vs. TLS and SRTP for VoIP, 5th International Workshop on Security in Information Systems (WOSIS 2007), Pages 82-92, June 12-13, 2007 - Funchal, Madeira – Portugal.
25. Mark Hartong, Rajni Goel and Duminda Wijesekera, Investigating Railroad accidents using digital forensics, Third Annual IFIP Working Group 11.9 International Conference on Digital Forensics, National Center for Forensic Sciences, Orlando, FL, USA. Pages 255-265, January 28 - 31, 2007.
26. Mark Hartong, Rajni Goel and Duminda Wijesekera, Rail Infrastructure Security for Positive Train Control, First Annual IFIP Working Group 11.10 International Conference on Critical Infrastructure Protection, Pages 57-72, Dartmouth College, Hanover, New Hampshire, USA, March 19 - 21, 2007.
27. Saket Kaushik, Duminda Wijesekera, RDF Collections, in the proceedings of the 3rd international conference on Web information technology (Webist), March 3-6, 2007. Barcelona, Spain.
28. Saket Kaushik, Duminda Wijesekera and Paul Ammann. [BPEL Orchestration of Secure WebMail](#). In 2006 ACM Workshop on Secure Web Services (SWS 2006), held in association with the 13th ACM Conference on Computer and Communications Security (CCS 2006), Pages 85-94, Fairfax, VA, U.S.A.
29. Saket Kaushik, Csilla Farkas, Duminda Wijesekera and Paul Ammann. An Algebra for Composing Ontologies, in the proceedings of the International Conference on Formal Ontology in Information Systems (FOIS 2006), Pages 265-276, Baltimore, Maryland.
30. Nicola Zannone, Sushil Jajodia, Duminda Wijesekera, Creating Objects in the Flexible Authorization Framework, IFIP 11.3, Pages 1-14, Sophia Antipolis, August 2006.

31. Saket Kaushik, William Winsborough, Duminda Wijesekera, Paul Ammann, Policy Transformations for Preventing Leakage of Sensitive Information in Email Systems IFIP 11.3, Sophia Antipolis, Pages 163-178, August, 2006.
32. Hemant Sengar, Haining Wang, Duminda Wijesekera, and Sushil Jajodia, "Fast Detection of Denial of Service Attacks on IP Telephony", in *Proceedings of IEEE IWQoS'2006*, Pages 199-208, New Haven, CT, June 2006
33. Hemant Sengar, Duminda Wijesekera, Haining Wang, and Sushil Jajodia, VoIP Intrusion Detection Through Interacting Protocol State Machines, in [*Proceedings of IEEE DSN'2006*](#), Pages 393-402, Philadelphia, PA, June 2006.
34. Leisheng Peng, Duminda Wijesekera, Thomas Wingfield, James Bret Michael, An ontology based distributed legal white-board to determine legal responses to online cyber attacks, 4th International Workshop on Security in Information Systems, associated with the 8th International Conference in Enterprise Information Systems. Pages 232-245, May 24-25, Cypress 2006.
35. Ahmed Alazzawe, Anis Alazzawe, Asad Nawaz and Duminda Wijesekera, Analyzing pre-authentication timestamps to crack Kerberos V passwords, 4th International Workshop on Security in Information Systems, associated with the 8th International Conference in Enterprise Information Systems. Pages 267-277, May 24-25, Cypress 2006.
36. Hemant Sengar, Ram Dantu and Duminda Wijesekera, Securing VoIP from Signaling Network Vulnerabilities, IEEE NOMS, Workshop on VoIP Management and Security (VoIP MaSe) (6 pages, no page numbers available) April 03, 2006.
37. Mark Hartong, Rajni Goel and Duminda Wijesekera Mapping Misuse Cases to Functional Fault Trees for Positive Train Control Security, in the Proceedings of 9th International Conference on Applications of Advanced Technology in Transportation Engineering, Pages 394-399, Aug 13-16, 2006 Chicago, IL
38. Mark Hartong, Rajni Goel and Duminda Wijesekera "Communications Based Positive Train Control Systems Architecture in the USA" Appearing in the Proceedings of the 63rd IEEE International Vehicle Technology Conference, Pages 2987-2991, May 7-10, 2006 Melbourne, Australia
39. Mark Hartong, Rajni Goel and Duminda Wijesekera "Communications Security Concerns in Communications Based Train Control" in the Proceedings of the 10th International Conference on Computer System Design and Operation in the Railway and Other Transit Systems, (10 Pages) July 10-12, 2006, Prague, Czech Republic
40. Mark Hartong, Rajni Goel and Duminda Wijesekera "Key Management Requirements for Positive Train Control Communications Security" in the Proceedings of the IEEE/ASME Joint Rail Conference, Pages 253-262, April 4-6, 2006 Atlanta Georgia.
41. Mark Hartong, Rajni Goel and Duminda Wijesekera, Use-Misuse driven forensic analysis of positive train control – preliminary study, in the proceeding of Second IFIP WG 11.9 International conference on Digital Forensics, Pages 141-155, Jan 29-Feb 01, 2006, Orlando FL.
42. Munir Majdalawieh, Francesco Parisi-Presicce and Duminda Wijesekera, DNPsec: A Security framework for DNP3 in SCADA Systems, in International Joint Conference on Computer Information and Systems Sciences and Engineering, Pages 227-234, Bridgeport, CT. December 10-20, 2005.

43. Saket Kaushik, Duminda Wijesekera and Paul Ammann Policy-Based Controlled Dissemination of Web-Ontologies, Pages 85-94, ACM Workshop on Secure Web Services held in association with the 12th ACM Conference on Computer and Communications Security (CCS 2005).
44. Saket Kaushik, Duminda Wijesekera, William Winsborough and Paul Ammann, Email Feedback: A Policy-based Approach to Overcoming False Positives. Pages 73-82, proceedings of the 3rd ACM Workshop on Formal Methods in Security Engineering (FMSE 2005), Workshop held in association with the 12th ACM Conference on Computer and Communications Security (CCS 2005).
45. Nicola Zannone, Sushil Jajodia, Fabio Massacci and Duminda Wijesekera, Maintaining Privacy on Derived Objects, Pages 10-19, Proceedings of the Workshop on Privacy in the Electronic Society (WPES), November 7, 2005.
46. Saket Kaushik, Duminda Wijesekera, William Winsborough and Paul Ammann. Distributed CLP clusters as a security policy framework for email. In 1st international workshop on Applications of constraint satisfaction and programming to computer security (CPSec), at CP 2005, the eleventh international conference on principals and practice of constraint programming, Barcelona, Spain.
47. Sushan Sudaharan, Srikrishna Dhamalapati, Sijan Rai and Duminda Wijesekera, Knowledge Sharing Honeynets, in the 6th IEEE Information Assurance Workshop, United States Military Academy, West Point, New York. June 15-17, 2005.
48. Sushan Sudaharan, Srikrishna Dhamalapati, Sijan Rai and Duminda Wijesekera, HoneyNet clusters as early warning systems to production networks, in the 3rd International Workshop on Security in Information Systems, associated with the 7th International Conference in Enterprise Information Systems. Pages 77-83, May 24-25, Miami FL 2005.
49. Khaled Alghathbar, Duminda Wijesekera and Csilla Farkas, FlowUML: A Framework to Enforce Secure Information Flows in UML based requirements engineering, in the 3rd International Workshop on Security in Information Systems, associated with the 7th International Conference in Enterprise Information Systems. Pages 229-238, May 24-25, Miami FL 2005.
50. Hemant Sengar, Duminda Wijesekera and Sushil Jajodia, MTPSec: Customizable Secure MTP3 Tunnels in the SS7 Network, International Parallel and Distributed Processing Symposium (IPDPS) Workshop on Security in Systems and Networks (SSN), Pages 286-296, April 2005, Denver, Colorado.
51. Hemant Sengar, Duminda Wijesekera and Sushil Jajodia, Authentication and Integrity in Telecommunication Signaling Network, 12th Annual IEEE International Conference on the Engineering of Computer Based Systems (ECBS 2005), Pages 163-170, April 2005.
52. Liesheng Peng, Duminda Wijesekera, Tom Wingfield, Emily Frye, Randy Jackson and James Bret Michael, A tool to legally characterize cyber intruders, in IFIP 11.9 workshop in digital forensics. Pages 283-294, February 2005. (Acceptance ratio 50%)
53. Duminda Wijesekera, James Bret Michael and Anil Nerode, A Framework to Assess the Effectiveness of Ballistic Missile Defense Policies, in POLICY 2005, Pages 115-118.
54. Naren B. Kodali, Csilla Farkas and Duminda Wijesekera, *Creating Non-decomposable stream bundles in multimedia web services using uSMIL*, in the

- proceedings of the Semantic Web Services workshop associated with the Computer and Communication Security Conference, 2004 Pages 67-76. (Acceptance rate 40%)
55. Kaushal Sarda, Duminda Wijesekera and Sushil Jajodia, *Correlating TVA Attacks*, in the proceedings of the ICDCIT 2004. (Acceptance rate 25%)
 56. Sushil Jajodia and Duminda Wijesekera, A Flexible Authorization Framework for E-Commerce, in the proceedings of the ICDIT 2004, Pages 336-345. (Acceptance rate 25%)
 57. Lingyu Wang, Duminda Wijesekera and Sushil Jajodia, *Attribute Based Access Control*, to appear in the proceedings of the 2nd ACM Workshop on Formal Methods in Security Engineering: from specification to code in CCS 2004. Pages 45-55 (Acceptance ratio 30%)
 58. Shipping Chen, Duminda Wijesekera and Sushil Jajodia, *An Interactive Access Control Model for the Flexible Authorization Framework*, in ESORICS 2004, Pages 1-16, Sept 14-1, 2004. (Acceptance ratio 27/159)
 59. Inja Youn and Duminda Wijesekera, *Secure Bridges: A means to conduct secure teleconferences over public telephones*, in the proceedings of IFIP 11.3 - 2004. Pages 205 - 218 (Acceptance ratio 50%)
 60. Csilla Farkas, Thomas Wingfield, James Bret Michael and Duminda Wijesekera, *THEMIS: Threat Evaluation Metamodel for Information Systems*, in the proceeding of the 2nd International Symposium on Intelligence and Security Informatics, Tucson, AZ, USA, June 2004 pages: 307-321. (Acceptance ratio 60%)
 61. Naren B. Kodali, Csilla Farkas and Duminda Wijesekera, *SECRETS: A Secure Real-time Multimedia Surveillance System*, in the proceeding of the 2nd International Symposium on Intelligence and Security Informatics, Tucson, AZ, USA, June 2004. Eds. H. Chen, R. Moore, D. Zheng, and J. Levitt, 2004, pages 278-296. (Acceptance ratio 60%)
 62. Khaled Alghathbar and Duminda Wijesekera, *FlowUML: A Framework to Enforce Secure Information Flow Policies in UML based requirements engineering*, in POLICY 2004, pages 193-196. (Acceptance ratio 33/87)
 63. Saket Kaushik, Paul Ammann, Duminda Wijesekera and William H. Winsbrough, *Policy based enhancements for securing E-mail*, in POLICY 2004, pages 168-179. (Acceptance ratio 33/87)
 64. Lingyu Wang, and Sushil Jajodia and Duminda Wijesekera, *Securing OLAP Data Cubes Against Privacy Breaches*, in the proceedings of IEEE Symposium on Security and Privacy, 2004, pages 161-175. (Acceptance ratio 19/186)
 65. James Bret Michael, Thomas Wingfield and Duminda Wijesekera, *Measured responses to cyber attacks using Schmitt Analysis: A case study of attack scenarios for a software-intensive system*, in the Proc. Twenty-seventh Annual Int. Computer Software and Applications Conf., IEEE (COMPSAC), Pages 622-626, 2003.
 66. Hassan Gomaa and Duminda Wijesekera, *Consistency in Multiple-View UML Models: A Case Study*, in the Workshop in Consistency Problems in UML-based Software Development II at UML 2003.
 67. Naren B. Kodali, Csilla Farkas and Duminda Wijesekera, *Multimedia access control using RDF metadata*, in the proceedings of the Workshop on metadata for security associated with OTM Federated conferences, 2003. (Acceptance ratio 45%)

68. Khaled Alghathbar and Duminda Wijesekera, *AuthUML: A Three-phased Framework to Model Secure Use Cases*, in the proceedings of the 2003 ACM Workshop on Formal Methods in Security Engineering, co-located with CCS'03, October 2003, pages 77-86.
69. Naren B. Kodali, Csilla Farkas and Duminda Wijesekera, *MLS-SMIL for Surveillance of Facilities with Multi-level Security Requirements*, in proceedings of the IFIP 11.5 conference on Security and Integrity –2003, pages 67-83. (Acceptance ratio 50%)
70. Lingyu Wang, Duminda Wijesekera and Sushil Jajodia, *Precisely Answering Multi-dimensional Range Queries without Privacy Breach*, in Proc. 8th European Symposium on Research in Computer Security (ESORICS 2003), Springer Lecture Notes in Computer Science, Volume 2808, October 2003, pages 100-115 (Acceptance ratio 19/114).
71. Khaled Alghathbar and Duminda Wijesekera, *Consistent and Complete Security Policies in Use Cases*, in the Proceedings of 6th International Conference on the Unified Modeling Language (UML 2003), Springer Lecture Notes in Computer Science, Volume 2863, October 2003, pages 373-388. (Acceptance ratio 25/143)
72. Khaled Alghathbar and Duminda Wijesekera, *Modeling Dynamic Role-based Access Constraints using UML*, in the proceedings of the Software Engineering (SERA) 2003.
73. Shiping Chen, Duminda Wijesekera and Sushil Jajodia, *FlexFlow: A Flexible Flow Control Specification Framework*, in the proceedings of 18th IFIP 11.3 conference on Database Security 2003, pages 372-386. (Acceptance ratio 53%)
74. Mohammad Abdullah, Duminda Wijesekera and Hassan Gomaa, *Designing Quality of Service Based Multimedia Using the Unified Modeling Language*, in the proceedings of 9th International Conference on Distributed Multimedia Systems 2003, pages 6-11. (Acceptance ratio 29/58)
75. Mohamad Sharif and Duminda Wijesekera, *Providing Voice Privacy over the Publicly Switched Telephone Network*, in the proceedings of the 18th IFIP International Information Security Conference 2003, pages 25-33. (Acceptance ratio 33/121)
76. Naren B. Kodali and Duminda Wijesekera, *Release Control of SMIL Formatted XML Pay-per-view Movies*, in the proceedings of the ACM Workshop on XML Security, in conjunction with the 9th ACM Conference on Computer and Communications Security 2002, pages 53-60. (Acceptance ratio 11/18)
77. Duminda Wijesekera, and Sushil Jajodia, *Policy Algebras for Access Control: The Predicate Case*, in the proceedings of the 9th ACM Conference on Computer and Communications Security 2002, pages 171-180. (Acceptance ratio 27/161)
78. Paul Ammann, Duminda Wijesekera and Shaket Kaushik, *Efficient, Graph Based Network Vulnerability Analysis*, in the Proceedings of the 9th ACM Conference on Computer and Communications Security 2002, pages 217-224. (Acceptance ratio 27/161)
79. Claudio Bettini, Sushil Jajodia, Sean Wang, Duminda Wijesekera, *Provisions and obligations in policy rule management and security applications*, Proc. 28th International Conference on Very Large Data Bases, Hong Kong, China, August 2002, pages 502-513 (Acceptance ratio 69/432).

80. Lingyu Wang, Duminda Wijesekera, Sushil Jajodia, *Towards secure XML federations*, in *Research Directions in Data and Applications Security*, Ehud Gudes, Sujeet Sheno, eds., Kluwer Academic Publishers, Boston, 2003, pages 117-131 (Acceptance ratio 25/50).
81. Lingyu Wang, Duminda Wijesekera, Sushil Jajodia, *Cardinality-based inference control in sum-only data cubes*, Proc. 7th European Symposium on Research in Computer Security (ESORICS 2002), *Lecture Notes in Computer Science, Vol. 2502*, Zurich, Switzerland, October 14-16, 2002, pages 55-71 (Acceptance ratio 16/83).
82. Claudio Bettini, Sushil Jajodia, Xioang Sean Wang and Duminda Wijesekera, *Obligation Monitoring in Policy Management*, Proc. 3rd International Workshop on Policies for Distributed Systems and Networks (POLICY 2002), Monterey, CA, IEEE Computer Society, June 2002, pages 2-12 (Acceptance ratio 17/67).
83. Sushil Jajodia and Duminda Wijesekera, *Recent Advances in Access Control Models*, in the proceedings of the 15th annual IFIP conference on database security (11.3), 2002, pages 3-15.
84. Jacqueline Yang, Duminda Wijesekera and Sushil Jajodia, *Subject Switching Algorithms for Access Control in Federated Databases*, in the proceedings of the 15th Annual IFIP Conference on Database Security, 2002. Pages 61-74.
85. Asa Hagstrom, Sushil Jajodia, Francesco Parisi-Presiccee and Duminda Wijesekera, *Revocations – a classification*, in the proceedings of the 14th IEEE Computer Security Foundations Workshop, pages 44-58, 2002.
86. Duminda Wijesekera, and Sushil Jajodia, *Policy Algebras for Access Control: The Propositional Case*, in the proceedings of the 8th ACM Conference on Computer and Communications Security 2001, Pages 38-47 (Acceptance ratio 27/153).
87. S. Y. Choi and Duminda Wijesekera, *Using UML to Develop the DADSim Dist. Air Defense Simulation*, in the proceedings of the High Assurance Systems Engineering Symposium- November 2000. Pages 75 – 83.
88. Alex Brodsky, Csilla Frakas, Duminda Wijesekera and X. Sean Wang, *Constraints, Inference Channels and Secure Databases*, in the proceedings of the 6th International Conference on Principles and Practices of Constraint Programming. October 15-17, 2000.
89. Duminda Wijesekera and Daniel Barbara, *Mining Cinematic Knowledge*, in proceedings of the Multimedia Data Mining Workshop associated with KDD 2000.
90. Minesh I. Patel, Bill Wren and Duminda Wijesekera, *A Tool for Architecture Trades and Optimization for Air and Space Based Avionics Systems*, in the proceedings of the International Conference on Digital Avionics Systems 1999, pages 65-77.
91. Valerie Guralnick, Duminda Wijesekera and Jaideep Srivastava, *Pattern Directed Mining of Sequence Data*, - in the proceedings of the 4th International Conference on Knowledge Discovery in Databases (KDD98), pages. 51-57, 1998.
92. Valerie Guralnick, Duminda Wijesekera and Jaideep Srivastava, *Mining for Frequent Episodes*, in the proceedings of the workshop on High Performance Datamining held in conjunction with 12th International Parallel Processing Symposium (IPPS) and 9th Symposium on Parallel and Distributed Processing (SPDP) in Orlando, FL. 1998.
93. Sanjai Rayadurgam, Duminda Wijesekera and Mats P. E. Heimdahl, *Using Binary Decision Diagrams to Discover Functional Dependencies and Independencies*, in TABLEAUX 1998.

94. Duminda Wijesekera, Shwetal S. Parikh, Srivatsan Varadarajan, Jaideep Srivastava and Anil Nerode, *Performance Evaluation of Media Losses in the Continuous Media Toolkit*, in the proceedings of the International Workshop on Multimedia Software Engineering (MSE'98) pages 60-67, 1998.
95. Duminda Wijesekera, Shwetal S. Parikh, Srivatsan Varadarajan and Jaideep Srivastava, *Providing Cost-effective Multimedia Services in a Concurrent Engineering Environment*, in the proceedings of the Concurrent Engineering Symposium of the Society of Automotive Engineers to be held in Detroit February 23-26, 1998.
96. Wonjun Lee, Difu Su, Duminda Wijesekera and Jaideep Srivastava *Experimental Evaluation of a Continuous Media File System (PFS)*, in CIKM'97, 1997.
97. Duminda Wijesekera, Madhavan Ganesh, Jaideep Srivastava and Anil Nerode , *Normal Forms for Functional Independencies*, in the proceeding of the workshop on theoretical issues in databases in ESSLLI 97.
98. Harinath, R.R., Wonjun Lee, Parikh, S.S, Difu Su, Wadhwa, S., Wijesekera, D., Srivastava, J. and Kenchammana-Hosekote, D.R, *A Multimedia Programming Toolkit/Environment*, In the proceedings of the International Conference on Parallel and Distributed Systems 1997, pages 446-452.
99. Duminda Wijesekera, M. Ganesh, J. Srivastava, A. Nerode , *Tableaux for Functional Dependencies and Independencies*, in Automated Reasoning with Analytical Tableaux, TABLEAUX '97 (LNAI 1227). Page 358-372.
100. Duminda Wijesekera and Jaideep Srivastava, *Quality of Service Metrics for Continuous Media*, in the proceedings of Protocols for Multimedia Systems 1995; Pages 269-289.

Book Chapters

1. Murat Gunestas, Duminda Wijesekera and Anoop Singhal, Forensic Web Services, in Web Services Security and Development and Architecture: Theoretical and Practical Issues, Pages 163-176, edited by Carlos Antonio Guteirrez Garcia, Eduardo Fernandez-Medina Patton and Mario Gerardo Piattini Velthus, August 29, 2008.
2. Barry Sweeney and Duminda Wijesekera, Commercial interoperable VoIP Information Assurance Architectures, in the VoIP Handbook, Applications, Technologies, Reliability and Security, Pages 333-358, edited by Syed Ahson and Mohammad Ilyas. December 18, 2008.
3. Barry Sweeney and Duminda Wijesekera, Current and Future VoIP Quality of Service Techniques, in the VoIP Handbook, Applications, Technologies, Reliability and Security, Pages 121-136, edited by Syed Ahson and Mohammad Ilyas. December 18, 2008.
4. Munir Majdalawieh and Duminda Wijesekera, DNPSec Simulation Study, in Innovative Algorithms and Techniques in Automation, Industrial Electronics and Telecommunications, Pages 337-342, Springer-Varlag, November 04, 2007.
5. Lingyu Wang, Sushil Jajodia, Duminda Wijesekera, "Preserving privacy in OLAP data cubes," Security in Decentralized Data Management, Yu Ting, Sushil Jajodia, eds., Springer-Verlag, Jan 2007, pages 357-382.

6. Duminda Wijesekera and Daniel Barbara, *Mining Multimedia Datasets*, in the Handbook of Datamining and Knowledge Discovery, edited by Willi Kloss and Jan M. Zytkow, Oxford University Press, 2002, Pages 758-770.
7. Steven Noel, Duminda Wijesekera and Charles Youman, *Modern Intrusion Detection and Degrees of Attack Guilt*, In Data Mining in Intrusion Detection. Edited by Daniel Barbara and Sushil Jajodia. Kluwer Publishers 2002, pages 1-17.
8. Sushil Jajodia and Duminda Wijesekera, A Flexible Authorization Framework. In Information Security Policies and Actions in Modern Integrated Systems edited by Carlo Bellettini and Maria Graza Fugini. Idea Group Publishing, Hershey, PA, 2004, pages 149-176.

Other Publications

1. Hemant Sengar, Duminda Wijesekera and Sushil Jajodia, "Gateway Security for SIGTRAN's M3UA protocol in VoIP Networks", IEEE GLOBECOM Workshop on Voice over IP: Challenges and Solutions, November 2004, Dallas, Texas.
2. Mohamad Sharif, Duminda Wijesekera and James Bret Michael, Providing secure communication services on the public telephone network infrastructures, In *Proc. Tenth Intl. Conf. on Telecommunication Systems: Modeling and Analysis*, American Telecommunications Systems Management Association (Monterey, Calif., Oct. 2002, pages 214-224.
3. Naren B. Kodali, Duminda Wijesekera and James Bret Michel, [Secure surveillance using SMIL](#). In *Proc. Tenth Intl. Conf. on Telecommunication Systems: Modeling and Analysis*, American Telecommunications Systems Management Association (Monterey, Calif., Oct. 2002), 225-233.
4. Sushil Jajodia and Duminda Wijesekera, *Security in Federated Databases*, Information Security Technical Report, Vol 2, Number 2, ISSN: 1363-4127, pages 69-79, June 2001.
5. Hassan Gomaa and Duminda Wijesekera, *The Role of UML, OCL and ADLs in Software Architecture*, First ICSE Workshop on Describing Software Architecture with the UML, May, 2001.
6. Ping Chen and Duminda Wijesekera, *Model checking finite state machines*, in the proceedings of the: 8th Annual IEEE International Conference and Workshop on the Engineering of Computer Based Systems, June 2002.

Publications under Review

1. Min Xu, Duminda Wijesekera, and Xinwen Zhang, Towards Runtime Access Control Administration and Enforcement for Web Services, submitter to IEEE Transactions on Services Computing (TSC). Special Issue on Security and Dependability in SOA and Business Processes
2. Mark Hartong, Rajni Goel, Duminda Wijesekera, "Security and Dependability in Train Control Systems", invited and accepted book chapter to appear in "Vehicular Communication, Automotive and Beyond", John Wiley, Publisher, Feb 2010
3. Mark Hartong, Rajni Goel, and Duminda Wijesekera, "Safety and Positive Train Control Failure Modes, in review at with the "Journal of Transportation Safety and Security", Taylor & Taylor Publisher

4. Mark Hartong, Rajni Goel, and Duminda Wijesekera, Security Requirement Derivation by Noun Verb Analysis of Use-Misuse Case Relationships- A Case Study in review with “Innovations in Systems and Software Engineering”, Springer Verlag.
5. Mark Hartong, Rajni Goel, and Duminda Wijesekera, “Transportation” Invited Chapter in “Advances in Critical Infrastructure Protection: Infrastructure Models, Analysis, and Defense” Wothensun et.al Editors, Springer-Verlag Publisher

Research Grants

Research Grants from External Funding Agencies

1. CoPIs Sushil Jajodia Angelos Stavrou and Duminda Wijesekera, Secure Compositions of Networked Systems based on User Tasks and Organizational Policy, Air Force Office of Scientific Research, From July 2009 to July 2012. Detailed reference at <http://csis.gmu.edu/jajodia/SecureComposition>.
2. Co-PI, NSF 0627493 Cyber-trust, multi-institutional grant. \$250,000 for GMU (PI: Sushil Jajodia) and \$150,000 for the College of William and Mary (Co-PI Haining Wang). Period September 2006 to September 2009, detailed reference at <http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=0627493>.
3. Co-PI, Equipment grant from the US-Army research office for \$225,000. Sushil Jajodia.
4. Co-PI, An Integrated Authorization and Intrusion Detection System for the GMPLS Control Plane. PI was Chris Dhas, CNS Cooperation. Springfield, VA. DoE SBIR, GMU funding \$33,000.
5. Principle Investigator, Preventing Security Threats in Public Telephony. FAA \$53,000. September 2004 to August 2005.
6. Principle Investigator, Investigation of the Feasibility of Integrating a UML-based Model-Extraction Technique into the NPS Methodologies and Tool-suites for Engineering the Ballistic Missile Defense Systems \$40,000 from The Missile Defense Agency covering June 01 2004 to September 30, 2005.
7. Principle Investigator, Experimental comparison of Vulnerability Scanners. Harris Corporation. \$30,000 from Oct 2003 to May 2004.
8. Principle Investigator, advanced concept technology demonstration (ACTD) to support the DoD Joint Information Operations Center. \$30,000 over one year. (September 2002 to September 2003).
9. Co-Principle Investigator, DoD – Grant TTO 04AC.13: Assessment of Data mining Technologies for Intrusion Detection, NSA -TTO 04AC.13 (PI Sushil Jajodia)
10. Co-Principle Investigator, NSA – Grant 220747: Topological Vulnerability Analysis: Discovering Critical Security Vulnerability Paths in Networks \$150,000 over one year. (PI Sushil Jajodia) (November 2002 to November 2003).
11. Co-Principal Investigator, NSF Award CCR-0113515: Flexible Support for Multiple Data-Flow and Access Control Policies, \$360,000 over three years. (PI Sushil Jajodia) (2001 August to 2005 August)

Internal Research Grants from the George Mason University

1. High Potential GRA awarded to Xiaohui Yang for GMPLS security, 2005-2008.
2. PI, Investigating GMPLS Security, GRA Support of \$ 15,000 from the School of Information Technology and Engineering.
3. Principle Investigator, Optimizing the Legal Response to Intrusions in Cyberspace. Critical Infrastructure protection Project at George Mason University for \$219,000 September 2004 to August 2005.
4. Principle Investigator, Interoperable Legal Ontologies for Cyber Security. From the CIPP Project at George Mason University, \$275,000.00. Duration July 2003 to August 2004.
5. Principle Investigator, Research Funds (\$10,000) from the School of IT E, 1999-2000 (with Daniel Barbara), for the project *Mining from Multimedia Streams*.
6. Principle Investigator, Research Funds (\$3,000) from the Provost, 1999-2000 (with Daniel Barbara), for the project *Mining from Multimedia Streams*.

Software Project Experience

1. Developing a legal reasoning systems to determine if a given systems is under attack based on local laws and international treaties. (The system was developed jointly with the Potomac Institute of Policy Studies with funds from the GMU CIPP project, and demonstrated to the DoJ and the World Bank). Ongoing since December 2003.
2. Developing hardware based Honeynet capable of real time intrusion detection and response at the Laboratory for Attack prevention and Detection in Roberts Road. (GMU). September 2003 to date.
3. Benchmarking and comparison testing of the STAT™ Scanner developed by the Harris Corporation. January 2004 to July 2004. (Developed with funds from Harris Inc.)
4. Member of the SAGE design team, Honeywell Inc. From February 1998 to August 1999. SAGE is a software design and code generation tool with code optimization and instrumentation used to design avionics space based and control applications.
5. Member of the PRESTO design and implementation team from March 1993 to May 1995. Presto is a soft real-time, multimedia composition and display system developed by the Honeywell Technology Center and the University of Minnesota. (developed under a grant from the AFRL, Rome)

Patents

1. **Granted:** (Patent Number US 7,340,469 B1, Granted March 04, 2008) Khaled Alghathbar and Duminda Wijesekera, *Implementing Security Policies in Software Development Tools*.
2. **Pending:** Mohamad Sherif and Duminda Wijesekera, *A method to provide end-to-end voice privacy as well as telephones and subscribers authentication with minimum modification to existing public telephone network infrastructures*. Patent application in process at the GMU patent office.
3. **Pending:** Sushanthan Sudaharan, Srikrishna Dhamalapati, Sijan Rai and Duminda Wijesekera, *A method to create Honeynet Farms*. Patent Application in process at the GMU patent office.

Invited Talks

1. Identity Switching for Coalition Access Control, Department of Computer Science, Naval Postgraduate School, Monterey, CA, November 05, 2005.
2. Some Perspectives on GIG Policies, Duminda Wijesekera and James Bret Michael, Invited talk at Security Policy management Workshop, National Security Agency, Baltimore MD. August 30, 2005.
3. SS7 and VoIP Security, Invited talk at the Federal Communication Commission (FCC), August 26, 2005.
4. Recent Advances in Flexible Authorization Models, Colloquium Department of Computer Science, University of South Carolina. October 04, 2002.
5. Intuitionistic Dynamic Logic, Department of Computer Science, University of Kentucky. April 17, 1989.

Teaching

Courses Taught at George Mason University

1. Invited to teach OR 750, Sys 759: Logical Foundations of Knowledge Sharing, Summer 2009. Taught 50% of the class with Prof Kathy Laskey teach the other 50%
2. ISA 562, Internet Security Theory and Practice, Fall 2007, Spring 2008, Fall 2008, Spring 2009, Fall 2009.
3. ISA 763, Security Protocol Analysis, Fall 2007, Fall 2008, Fall 2009.
4. IT 862, Formal Models of Security, Spring 2009.
5. ISA 662, Introduction to Security, Spring 2006, Fall 2006, Spring 2007.
6. ISA 780, Theoretical Models of Computer Security, Fall 2005, Fall 2006.
7. ISA 666, Internet Security Protocols, Fall 2005, Spring 2006, Spring 2007.
8. INFS 515, Computer Organization: Spring 2000.
9. INFS 612, Data Communication and Distributed Processing: Spring 2001, Fall 2001, Fall 2002.
10. SWE 621, Software Design: Fall 1999, Spring 2000, Summer 2000, Fall 2000.
11. SWE 623, Formal Methods in Software Engineering: Fall 2000, Spring 2001, Fall 2002, Spring 2003, Fall 2003.
12. SWE 699/IT 821 (section 3), SWE 723, Precise Modeling, Spring 2002, Spring 2004.

Courses taught at the University of Central Florida, Computer Science Department (as an adjunct faculty member)

1. Operating Systems – spring 1999.

Curriculum Development

1. Helped develop OR 750, Sys 759: Logical Foundations of Knowledge Sharing.
2. Precise Modeling, 2002-2003. (Taught twice with enrolments 20 and 22)
3. Distributed Software Engineering, 2003-2004 (never taught)
4. Protocol Verification, (Taught thrice, Fall 2005 with enrolment 20, Fall 2007 with an enrolment of 46, Fall 2009 with an enrolment of 52)

Thesis Supervision and Related Activities

Doctoral Advisees:

Graduated Students

1. **Mohammad Sharif:** Graduated Spring 2004
Thesis title: *Providing voice privacy over the public-switched telephone networks.*
Current Employment: Research scientist, Department of Defense.
Productivity during dissertation: Two conference and two journal publications (pending), three patent applications (pending)
2. **Khaled Alghathbar:** Graduated Spring 2004.
Thesis title: Incorporating Access and Flow Control Policies in Requirements Engineering
Current Employment: Assistant professor, Department of Computer Science, King Saud University, Riyadh, Saudi Arabia.
Productivity during dissertation work: Six conference papers and two journal papers, one pending patent application.
3. **Naren B. Kodali:** Graduated Spring 2005. (co-advised with Dr. Csilla Farkas @ University of South Carolina)
Graduation date: November 14, 2004.
Thesis Title: Enforcing Semantic-aware Security in Multimedia Documents.
Current employment: SoX Compliant enforcement manager, FreddieMac, McLean.
Productivity during dissertation: Six conference and four journal papers.
4. **Munir Majdalawieh:** Graduated Summer 2006. (co-advised with Dr. Francesco Parisi-Presicce)
Research Concentration: SCADA Security
Current Employment: Assistant professor, American University at Sarjah.
Productivity during dissertation: one conference paper.
5. **Lingyu Wang:** Graduated Summer 2006 (co-advised with Dr. Sushil Jajodia)
Current employment: assistant professor, Concordia University, Canada.
Productivity during dissertation: five journal papers, 10 conference papers, two edited proceedings and one book.
Research Concentration: Security and privacy breaches in data cubes.
6. **Jacqueline Yang:** Graduated Spring 2006 (co-advised with Dr. Sushil Jajodia)
Current employment: Senior Software Engineer, SAIC.
Research Concentration: Subject switching techniques in federations.
Productivity during dissertation: one conference proceeding.
7. **Barry Sweeney:** Graduated November 2006.
Current employment: Senior Software Engineer, SAIC.
Research concentration: Secure VoIP in the DoD Domain.

Productivity during dissertation: Written three FOUO documents. Could not publish under his own name due to contractual constraints.
Current Employment: Project Lead, SAIC.

8. **Saket Kaushik:** Graduated October 2007 (co-advised with Dr. Paul Ammann)
Current employment: Member, technical Staff, Oracle, Redwood City, CA.
Research Concentration: Email Security, Semantic Web security.
Productivity during dissertation: Fourteen conference papers and two journal papers.
Status in the PhD program: Passed the dissertation proposal.
9. **Hemant Sengar:** Graduated August 2007 (co-advised with Dr. Sushil Jajodia)
Current Employment: regional telecommunication provider, SC.
Research concentration: telecommunication and VoIP security.
Productivity to date: six conference and two journal paper.
10. **Mark Hartong:** Graduated May 2009, (Co-advisor: Dr. Rajni Goel)
Research Concentration: Communication based secure railway control
Productivity during dissertation: published 14 refereed conference/Workshop papers and 2 journal papers.
11. **Murad Gunestas:** Graduated August 2009. Web-services forensics
Expected graduation date: August 2009.
Research concentration: forensic analysis of service oriented architectures.
Productivity to date: Published two conference papers, one book chapter and in the process of submitting two conference papers.

Current PhD Students

12. **Min Xu:**
Expected graduation date: December 2009.
Research concentration: Implementing the RBAC profile in XACML.
Productivity to date: Two conference papers, journal paper under review
Status in the PhD program: Passed proposal, Fall 2008.
13. **Xiaohui Yang:** (co-advised with Dr. Ram Dantu)
Expected graduation date: not determined yet
Research concentration: GMPLS security and VoIP security.
Productivity to date: Produced 5 conference papers.
Status in the PhD program: Started Fall 2006.
14. **Ahmed Alazzawe:**
Expected graduation date: not determined yet
Research concentration: Context aware VoIP services
Productivity to date: Two conference papers.
Status in the PhD program: Passed all exams.

15. **Anis Alazzawe:**
 - Expected graduation date: not determined yet
 - Research concentration: VoIP security and the presence profile
 - Productivity to date: Two conference papers.
 - Status in the PhD program: Passed all exams

16. **Tom Massie:**
 - Expected graduation date: not determined yet
 - Research concentration: XML based secure voice command for C⁴I
 - Productivity to date: Published two conference papers
 - Status in the PhD program: passed qualifying examination, August 2008.

17. **Ahmed Al-Farsi** (Co-advised with Prof. Khaled Moidu)
 - Expected Graduation date: August 2010.
 - Research Concentration: Health Care Security
 - Productivity to date: Two conference papers in review
 - Status in the PhD program: Passed qualifying exams, Proposing in September 2009.

18. **Alonza Mumford:**
 - Expected Graduation Date: August 2012
 - Productivity to date: Beginning research
 - Research Concentration: XACML policies for capabilities
 - Status in the PhD Program: Passed qualifying exam (1st time within an year)

19. **Bo Yu** (co-advised with Prof. Khaled Moidu)
 - Expected Graduation Date: August 2011
 - Productivity to date: Submitted one journal paper. Experimenting with EMR Systems, Supports the CHHS with EMR system designs.
 - Research Concentration: Health Care Security
 - Status in the PhD Program: Pre-qualifying exams

20. **Nathan Baldwin**
 - Expected Graduation: December 2010.
 - Productivity to date: Beginning research
 - Research Area: Declassification Policies for Cross-domain applications.
 - Status in the PhD program: Finished the PhD proposal

21. **Kartik Mecheri:**
 - Expected Graduation Date: unknown
 - Productivity to date: Already implemented an XACML entitlement server
 - Research Area: XACML Entitlements for Controlling Dynamic BPEL Process Execution
 - Status in the PhD program: Pre-qualifying exam.

22. **Changwei Liu**
 - Expected Graduation Date: unknown

Productivity to date: Beginning research
Research Area: Distributing the XACML Policy Framework
Status in the PhD program: Pre-qualifying exam.

23. **Nour Alubi**

Expected Graduation Date: unknown
Productivity to date: Have not started research
Research Area: unknown
Status in the PhD program: Passed qualifying exams.

24. **Faisal Saibi**

Expected Graduation Date: unknown
Productivity to date: Have not started research
Research Area: unknown
Status in the PhD program: Passed qualifying exams.

25. **Hamid Jalal, M.D.** (co-adviser Prof. Khaled Moidu)

Expected Graduation Date: unknown
Productivity to date: Not started research
Research Area: Health Care Security
Status in the PhD program: Beginning PhD program

26. **Murad Mehmet**

Expected Graduation Date: unknown
Productivity to date: Beginning research
Research Area: Implementing Ponzi and Money Laundering Schemes in
Choreographed Web Services
Status in the PhD program: Passed qualifying exams

27. **Mohamad Abaneh**

Expected Graduation Date: unknown
Productivity to date: Beginning research
Research Area: Web Services Security
Status in the PhD program: Beginning PhD program

28. **Mohamad AlJarrah**

Expected Graduation Date: unknown
Productivity to date: Not started research
Research Area: Network Security
Status in the PhD program: Beginning PhD program

29. **Paul J. Gilbride**

Expected Graduation Date: unknown
Productivity to date: Beginning research
Research Area: Network Security
Status in the PhD program: Passed qualifying exams.

30. **Hussam Shalaby**

Expected Graduation Date: unknown

Productivity to date: Beginning research

Research Area: Time Sensitive Web Service Choreographies.

Status in the PhD program: Passed qualifying exams.

Masters Advisees

1. **Shahan Sudusinghe**, MS (Information Systems) Graduated December 2007,
Currently employed at I-Defense Inc..
2. **Hasika Pamunuwa**, MS (Information Systems) Graduated May 2007.
Current employment: I-Defense Inc.
3. **Gary Libo**: MS (Information security) graduated May 2006, currently employed at
Mitre, proceeding for a PhD.
4. **Sijan Rai**: MS (Information Systems), expected graduation date 2008.
5. **Sushanthan Sudaharan**: M.S (Information Systems) 2004.
Currently: Lead- network security, Deloit, Toronto, Canada.
6. **Inja Youn**: MS (Information Systems) 2003, currently pursuing a PhD.
7. **Lt. Laura King**: MS (Computer Science) 2002.
Currently: Lieutenant, US Coast Guard.
8. **Mohamad Abdullah**: MS (Software Engineering) 2002.
Currently: perusing a PhD in Computer Science.

External Reviewer for PhD Thesis

1. Title: "Semantics-aware context representation in secure Web-based environments"
Ph.D. Candidate Cristiano Fugazza- fugazza@dsi.unimi.it
Institution: University of Milano, Italy
Supervisor: Prof. E. Damiani , Co-supervisor: Prof. P. Samarati.

Directed Studies and MS research projects (a selected sample)

1. Ye Jin, 2001.
2. Sushanthan Sudaharan, 2004.
3. Yang Luo, 2000.
4. Brandon Li, 2000.
5. Jim Watson, 2002.
6. Murad Mehmet, 2003.
7. Srikrishna Dhammalapathi, 2004.
8. Inja Youn, 2004.
9. Anupam Gupta, 2004.
10. Neelima Mishra, 2004.
11. Uyuen Nguyen, 2005.
12. Tom Massey, 2005.
13. Sarita Rajwani, 2006.
14. Olga Toverovskaya, 2006.

15. Xin Zhong, 2006.
16. Anil Rangi, 2006.

Ph.D. Committee Membership (a selected sample)

1. Rosanna Roncatto, Advisor: Dr. Edgar H. Sibley.
2. Robert Petit (graduated), Advisor: Dr. Hassan Gomaa.
3. Michael Francis, Advisors: Dr. Edgar H. Sibley.
4. Dan Ellis, Advisor: Dr. Paul Ammann and Dr. Sushil Jajodia
5. Ensok Shin (graduated), Advisor: Dr. Hassan Gomaa
6. Seok-Won Lee (graduated), Advisor: Dr. David Rine.
7. Erkin Olmez, Advisor: Dr. Alex Levis.
8. Michael Johnson, Advisor: Dr. Daniel Barbara.
9. Sanjeev Raman, Advisor: Dr. Carlotta Dominiconi.
10. Woan Sun Chang, Advisor: Dr. Robert Simon.
11. Ron Ritchie, Advisor: Dr Paul Ammann.

Service

School Level Services

1. Supporting a testbed for Electronic Medical Records the class HAP 601, Fall 2008, Fall 2009.
2. Supporting Research Infrastructure for the Critical Infrastructure Protection Program, Summer 2009.
3. Evaluating NOVA research proposals in healthcare security for Vice president for Research, Dr. Roger Stough, Summer 2009.
4. Evaluating Summer research grant applications for the Senior Vice President for Research, Dr. Matt Kluger, 2007.
5. Evaluated three sabbatical leave applications for the Senior Vice President for Research, Dr. Matt Kluger, 2005-2006.
6. Member, building committee, 2006.
7. Representative evaluating the Chairman's re-appointment, 2004.

College Level (IT&E) Services

1. Member, evaluation committee for the evaluation of ISE Chairman, appointed by IT&E Dean, Dr. Lloyd Griffiths.
2. ISE representative to the new IT&E building committee.

Departmental Service

1. Program Director, Information Security and Assurance, 2006 Summer to date
2. Chair, faculty search committee for Security- 2007.
3. Member faculty search committee for Theory - 2007.
4. Member, PhD admissions committee, 2007-2008,

5. Member, Graduate Studies committee, 2007-2008.
6. MS Coordinator, Information Assurance Program. Fall 2005 to date.
7. Member, Faculty recruitment committee for Security, 2005-2006.
8. Member, Faculty recruitment committee for Security, 2004-2005.
9. Administering the PhD examination for INFS 612. 2002- To date
10. Graduate studies committee, 1999 - 2001.
11. Undergraduate studies committee, 2000-2001.
12. Student appeals committee, 2000-2001.
13. ISE representative for the MS degree in Telecommunication, 2002-2005.

Professional Service

Evaluating Faculty applications

1. Evaluating Prof. Martin Olivier of the University of Pretoria, South Africa, June, 2008 for full professorship.
2. Reader's evaluation of Dr. Narankar Duley of Imperial College, London, Fall 2007.
3. Tenure evaluation of Dr. Sherif El-Kassas of Alexandria University, Egypt, Fall 2006, and re-evaluation Fall 2007.

Program Committee Chairmanships

1. General Chair, Policy 2010, to be held at George Mason University, summer 2010.
2. Local Arrangements Chair and PC Committee member eHealth, to be held at George Mason University, summer 2010.
3. Program co-chair, Ontologies for the Intelligence Community (OIC), December 3-4, 2008.
4. Program co-chair, POLICY 2006, held in the University of Western Ontario.
5. Program co-chair, Second annual workshop on the Security of VoIP Services, June 2-3, 2005, Washington DC.
6. Program co-chair, IFIP 11.3 Conference on database security, August 6-8, 2005, Storres, Connecticut.
7. Program co-chair, Multimedia Software Engineering, Dec 19, 2000. Tamkang University, Taiwan.

Program Committee Memberships

2009

1. WOSIS 2008 Portugal, May 24, 2009.
2. Ontologies for the Intelligence Community, 2009.
3. Policy 2009, June 05-07, London, UK.
4. IFIP 11.3, July 13-16, London Ontario.
5. IFIP 11.9 January 23-30, Orlando, FL.
6. Seventh International Workshop on Secure Web Services, associated with CCS 2008, Chicago, IL.

2008

7. WOSIS 2008 Portugal, May 24, 2009.
8. Ontologies for the Intelligence Community, 2008.
9. Policy 2008, June 05-07, Rome, Italy.
10. IFIP 11.3, July 13-16, London, UK.
11. IFIP 11.9 January 23-30, Kyoto, Japan.
12. ICDE 2008, Cancun, Mexico.
13. Seventh International Workshop on Secure Web Services, associated with CCS 2008.

2007

1. 6th International Workshop on Secure Web Services, associated with CCS 2007.
2. WOSIS 2007 Portugal, May 24, 2007.
3. Policy 2007, June 05-07, Rome, Italy.
4. IFIP 11.3, August 02, Irvine, CA.
5. IFIP 11.9 January 21-22, Orlando, FL.

2006

1. 2nd International Conference on Information Science and Security, Seoul, Korea from 23-26 May 2007.
2. 5th International Workshop on Secure Web Services, associated with CCS 2006.
3. Workshop on secure web services associated with IEEE Oakland, May 2006.
4. WOSIS 2006 Cyprus, May 24, 2006.
5. Policy 2006, June 05-07, London Ontario, Canada.
6. IFIP 11.3, August 02, Sophia-Antipolis, France.

2005

1. Second workshop in VoIP Security, Washington DC. June 2-3, 2005.
2. Workshop on Security in Information Systems, 2005 (WOSIS 2005)
3. ICDIT 2005, December 22-23, Bhubaneswar India 2005.
4. POLICY 2005.
5. Workshop on Secure Web Services, November 2005 (an ACM CCS workshop).
6. IFIP 11.3 Conference on database security, 2005.
7. Workshop on using constraint programming for security (an ICLP workshop) October 2005, Sitges, Spain.

2004

1. First workshop in VoIP Security, Dallas TX October 2004.
2. ICDIT, December 22-24, Bhubhaneshwar, India. December 2004.
3. Workshop on secure web security, Oct 2004 (an ACM CCS workshop).
4. IFIP 11.3 Conference on database security – 2004.
5. Workshop on Secure Web Services 2004.
6. 6th International Conference on Enterprise Information Systems 2004.
7. International Workshop on Multimedia Data Mining 2004.
8. POLICY 2004.

2003

1. Workshop on Metadata for security at the ODBASE conference 2003.
2. IFIP 11.3 Conference on database security – 2003.

3. Policy – 2003.
4. International Workshop on Multimedia Data Mining 2003.

2002 and Earlier

1. International Workshop on Multimedia Data Mining 2002.
2. International Workshop on Multimedia Data Mining 2001.
3. 6th International Workshop on Multimedia Information Systems – Oct 2000, Chicago.
4. International Conference on Parallel and Distributed Processing Techniques, July 1999 Las Vegas NV.
5. Sixth International Conference in Distributed Multimedia Systems, 99, Hiroshima, Japan. 1999.

Proposal Review Panelist

1. NSF Cyber security panel, April 14, 2009.
2. NSF IIS, February 08-09, 2007.
3. NSF Cybertrust, June 02, 2006.
4. NSF Scientific Computing April, 2006.
5. External Reviewer for DoE research grants, April 2005.
6. NSF Cybertrust panels May 10-11 and 20-21, 2004.
7. Two NSF IDM Review Panels, March 26th and April 2nd, 2004.
8. NSF Pre-proposal panel for large ITR grants- 2003 January, medium ITR grants 2003 April.

Reviewing

1. **Journals:** Information Processing Letters, International Journal of Digital Libraries, Journal of Simulation Practice and Theory, Journal of Man and Cybernetics, ACM Transactions of Computer and Communications Security, Transactions of Knowledge and Data Engineering, ACM Multimedia, Journal of Symbolic Logic, Annals of Pure and Applied Logic, Journal of Logic Programming.
2. **Conferences and workshops:**
 - 2009:** Policy 2008, IFIP 11.9, IFIP 11.10, IFIP 11.3, WOSIS 2008, CSFW 2008
 - 2008:** Policy 2008, IFIP 11.9, IFIP 11.10, IFIP 11.3, WOSIS 2008, CSFW 2008
 - 2007:** Policy 2007, IFIP 11.9, IFIP 11.10, IFIP 11.3, ESORICS 2007, WOSIS 2007, CSFW 2007
 - 2006:** IFIP 11.9, IFIP 11.3, Policy 2006, WOSIS 2006.
 - 2005:** Policy 2005, WOSIS 2005, 2nd International workshop in VoIP Security held in Washington DC., ESORICS 2005, IFIP 11.9 Digital Forensics – 2005. Workshop on Secure Data Management 2005 (a VLDB workshop) November 2005.
 - 2004:** POLICY 2004. 1st Workshop in VoIP Security- 2004, IFIP 11.3 Fifth International workshop on multimedia datamining
 - 2003:** Workshop on metadata for Security 2003, Policy 2003, 2003 IFIP 11.3 on Database Security,

2002: ACM Conference on Computer and Communications Security IFIP 11.3
Working group conferences in information system security Workshop in Multimedia
Data mining, Policy 2002,

2000 and 2001: 3rd International Workshop on Multimedia Software Engineering
(2000), 6th international workshop on Multimedia Information Systems (2000),

1999: International Conference on Parallel and Distributed Techniques (April 1999),
6th International workshop on Distributed Multimedia Systems (March 1999).

Consulting

1. Cryptek Health Care Services, November, 2007 – November 2009.
2. NIST, on security requirements for voting machines, Ontologies, Security Metrics.
June 2006 to Date.
3. Aeolus Systems, Director Technical Liaisons, Clearwater, FL. May 2005 to date.
4. Honeywell Military Avionics: The SRX Project, June to December 2004.